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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/973,762	10/11/2001	Toshiya Shimura	NU-01021	7580

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EXAMINER

TAYLOR, BARRY W

ART UNIT	PAPER NUMBER
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2643

DATE MAILED: 10/05/2003

6

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/973,762

Applicant(s)

SHIMURA ET AL.

Examiner

Barry W Taylor

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 10 July 2003.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-8 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-8 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on _____ is: a) ☐ approved b) ☐ disapproved by the Examiner.
- If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
- a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) _____.
- 4) ☐ Interview Summary (PTO-413) Paper No(s). _____.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other:

DETAILED ACTION

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

1. Claims 1-8 are rejected under 35 U.S.C. 103(a) as being unpatentable over Koeman et al (5,731,706 hereinafter Koeman) in view of Jollota (6,341,159).

Regarding claims 1 and 3. Koeman teaches a system for measuring cross-talk (Title, abstract) comprising:

polling means included in an outside line of an xDSL circuit installed in an office for pulling a subscriber line (see switch matrix 200 figures 5-6);

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noise level measuring means for measuring a level of cross-talk noise on the subscriber line (see receiver 208 and 218 in figures 5-6); and

decision means for determining, based on the level of cross-talk noise measured, whether or not the subscriber line is usable (see microprocessor 212 figures 5-6 wherein signals are provide to the microprocessor allowing the microprocessor to determine whether or not the subscriber line is usable or not by comparing the values to a look-up table---see 54 figures 5-6).

According to Applicant's newly added claim language and arguments, Koeman fails to teach wherein the measured cross-talk noise characteristic is cross-talk existing on the subscriber telephone line due to interference from other subscriber telephone lines.

Jollota teaches a wide band noise extrapolation test system, which may reside within a processor-controlled test head installed in a central office, or as part of test signal generation and processing circuitry of a craftsperson's test set (abstract) enabling service providers the ability to deal with the fact that in-place metallic cable plants are subject to a variety of influences, such as cross-talk from one or more adjacent twisted pairs (col. 1 lines 15-52). Jollota discloses a noise measurement is conducted by the test head for each cross-connect point, so as to derive a noise value for each wireline connected to the multidistribution frame (MDF). Each measurement noise value is stored in association with its cross-connect point, so that it may be associated with any cable plant that extends from the access point (col. 2 lines 26-33, col. 4 lines 42-52).

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Jollota teaches the noise sourced in the central office are averaged and used to derive a noise background value to be subtracted off the noise values associated with remote cable plants (col. 2 lines 33-41, col. 4 line 53 – col. 5 line 3) since wireline cable plants to CPE sites are highly susceptible to noise (col. 2 lines 42-59, col. 5 lines 4-20). Jollota compares each respective noise measurement value with a prescribed threshold indicative of what is considered to be 'failure' due to excessive crosstalk from another digital communication service, or as a result of a physical impairment on the line (col. 2 lines 60-64, col. 5 lines 41-60). Jollota discloses since the cable length and loss are known, the actual noise amplitude for a respective wireline is set equal to the 'adjusted' noise amplitude multiplied by the cable length and the loss per unit length of the wireline to accurately and reliably identify the location and amplitude of a source of noise that may impair digital communications along a wireline telecommunication link (col. 1 lines 7-13).

Therefore, it would have been obvious for one of ordinary skill in the art at the time of the invention to modify the invention as taught by Koeman to measure noise at each cross-connect, subtract noise attributable to the central office and comparing to known threshold value as taught by Jollota for the benefit determining if there is excessive crosstalk from another service.

Regarding Claim 2. Jollota teaches the measurement of crosstalk is made without injecting a test tone onto the subscriber telephone line (see col. 4 lines 45-48).

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Regarding claim 4. Koeman does not explicitly show MDF. However, Koeman discloses using a switch matrix 200 figures 5-6 for selecting a set of wire pairs 1-4 to be tested.

Jollota also shows MDF (see MDF number 25 figure 1) connected to CPE.

Regarding claims 5 and 7. Koeman teaches wherein the noise level measuring means comprises:

a voltage measuring circuit for measuring cross-talk noise voltage input via relays (see figures 5-6 wherein a signal source 202 produces stimulus signal input via relay matrix 200 and measuring circuit (i.e. RECEIVER) receives response signal and converts the response signal to a digital signal 208 and transforms the digital signal to noise spectrum by using FFT processor 210); and

an ADC circuit ... (see figures 5-6 wherein a signal source 202 produces stimulus signal input via relay matrix 200 and measuring circuit (i.e. RECEIVER) receives response signal and converts the response signal to a digital signal 208 and transforms the digital signal to noise spectrum by using FFT processor 210); and

an FFT circuit ... (see figures 5-6 wherein a signal source 202 produces stimulus signal input via relay matrix 200 and measuring circuit (i.e. RECEIVER) receives response signal and converts the response signal to a digital signal 208 and transforms the digital signal to noise spectrum by using FFT processor 210).

Regarding claims 6 and 8. Koeman teaches wherein the decision means comprises means for comparing the noise spectrum data with a template for noise level decision to thereby determining whether or not the subscriber line is usable (see figures

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5-6 wherein a look-up table (i.e. template) is used for comparing the FFT signal (i.e. noise spectrum) to values stored in look-up table 54).

Response to Arguments

2. Applicant's arguments with respect to claims 1 and 3 have been considered but are moot in view of the new ground(s) of rejection.

Conclusion

3. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

—(6,229,855) Takatori et al is considered pertinent taking measurements of cable losses between central office and CPE, and determines from this measurement, and signal to noise measurements **present** on the system, when to change the frequency levels for digital data services

4. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final action and the advisory action is not mailed until after the end of the **THREE-MONTH** shortened statutory period, then the

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shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

5. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Barry W Taylor whose telephone number is (703) 305-4811. The examiner can normally be reached on Monday-Friday from 6:30am to 4pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Curtis Kuntz can be reached on (703) 305-4708. The fax phone number for this Group is (703) 872-9314.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to Technology Center 2600 customer service Office whose telephone number is (703) 306-0377.


CURTIS KUNTZ
SUPERVISORY PATENT EXAMINER
TECHNOLOGY CENTER 2600